**Unit 1 Warm-Ups for Lessons 1-10**

**W1** Welcome to Math 8. List 5 things that that are important for you to do this year to learn

math.

**W2** “Building Chimneys”Suppose you are building a house with a chimney, based on the

pattern below. Complete the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Figure  Number | Draw  Figure | Written  Description | Process  Column | Number of Blocks |
| 1 |  | There is a house of 6 blocks plus a chimney that is 1 row of 2 blocks. |  | 8 |
| 2 |  |  |  |  |
| 3 |  |  |  |  |
| 4 |  |  |  |  |
| *n* |  | Let represent the figure number and **write a variable expression**  for the number of blocks in the figure. |  | Evaluate for |

**W3** “Building Chimneys – Multiple Representations” Yesterday for your warm-ups you

completed a table for “Building Chimneys”. Today

1. Complete the table. 2. Complete the graph.



|  |  |
| --- | --- |
| Figure Number | Total Blocks |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

Total Blocks

3. Write an equation.

Figure Number

**W4** How many squares are on the border of a 12×12 grid?

* Draw and label a simple diagram and write a number expression that explains your

method for finding the number of border squares.

**W5** Yesterday we wrote function rules for finding the number of squares on the border of an

grid. Match the function rules to the grids

1. D.
2. E.
3. F.

**W6** Simplify each variable expression. Show your work.

**W7** Yesterday you represented the border problem with an equation, a table, and a graph.

* Use the equation to find the number of border squares on a 20×20 grid.
* Use the pattern on the table to find the number of border squares on a 11×11 grid.
* Use the graph to find the number of border squares on a 9×9 grid.

Equation Graph



Table

|  |  |
| --- | --- |
| Size of Grid | Border Squares |
| 3 | 8 |
| 4 | 12 |
| 5 | 16 |
| 6 | 20 |
| 7 | 24 |
| 8 | 28 |
| 11 | ? |

Border Squares

Size of Grid

**W8** Yesterday you represented the “Tiling a Garden Patio function” with an equation, a table,

and a graph.

Patio 1 Patio 2 Patio 3

* Use the equation to find the number of white tiles around the garden on patio 10.
* Use the pattern on the table to find the number of white tiles around the garden on patio 7.
* Use the graph to find the number of white tiles around the garden on patio 8.

Equation Graph



Table

|  |  |
| --- | --- |
| Patio Number | White Tiles |
| 1 | 8 |
| 2 | 10 |
| 3 | 12 |
| 4 | 14 |
| 5 | 16 |
| 7 | ? |

Number of White Tiles

Patio Number

**W9** Study the patterns.

Figure 1 Figure 2 Figure 3

* Let represent the figure number and represent the number of tiles. Write an equation that gives as a function of . Check your rule for figure 3.
* Complete the table.
* Complete the graph.

1. Write an Equation.



1. Complete the table. 3. Complete the Graph.

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**W10** A **sequence** is a pattern involving an ordered arrangement of numbers.

Each individual number is called a term.

Study the sequence below. Each number in the sequence has a *term number* and a *term*

*value.*

3 8 13 18 23

1. How is this sequence of numbers growing?
2. What is the 0-step for this sequence of numbers?
3. Let represent the term number and represent the term value. Write a function rule that gives as a function of .
4. Complete the table.
5. Complete the graph.

Equation Graph



Table

|  |  |
| --- | --- |
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|  |  |
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